

I have found the following : Twigs of *Juniperus hypnoides* Heer and *Sequoia Reichenbachii* (Gein.) Heer ; aments of probably a *Sequoia* ; eight or ten varieties of seeds ; several varieties of fruits, including *Myrica* and *Platanus* ; leaves of *Brachyphyllum* ; five or six varieties of cone scales, including *Dammara* and *Picea* ; and a miscellaneous assortment of undeterminable remains.

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MESADENIA LANCEOLATA AND ITS ALLIES

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In the genus *Mesadenia* Raf. (*Cacalia* L. in part) there is a small group of species growing in moist places in the coastal plain of the southeastern United States and flowering in late summer, characterized by terete stems, leaves with parallel or sub-pinnate primary veins, and involucrel bracts not keeled. These plants are distinguished from each other by comparatively slight morphological characters, but differ more in range and habitat.

The first published species of this group is *M. lanceolata*, described by Nuttall in 1818 from specimens collected in Georgia and Florida (presumably in the maritime counties) by Dr. Baldwin. Its leaf-blades are glaucous, especially beneath, and lanceolate to oblanceolate in outline.

In 1822 Elliott described a plant collected by himself on his trip to the Alabama territory, identifying it with *Cacalia ovata* Walt. According to Elliott's description, and specimens which have since been collected in the same general region, this plant differs from Nuttall's *Cacalia lanceolata* chiefly in having leaf-blades nearly as broad as long ; but its range and habitat are so different that there is little danger of confusing the two species in the field.

But the identity of Elliott's *Cacalia ovata* with Walter's is by no means certain, since the former is not now known east of the Ocmulgee River, while the latter presumably came from South Carolina. There are also some serious discrepancies between Elliott's description and that of Walter, as was noted by Torrey

and Gray, who retained the name *ovata* for the plant described by Elliott, and referred Walter's description doubtfully to *Cacalia tuberosa* Nutt., a species chiefly confined to the Mississippi valley, as far as we know at present. In 1892, MacMillan (Met. Minn. 555) went a step further and formally substituted Walter's specific name for Nuttall's *tuberosa*, transferring it at the same time to *Senecio*, in which the original species (*atriplicifolia*) was placed by Hooker.

But *C. tuberosa* is not known to range farther east than Alabama, so it is highly improbable that Walter ever saw it. His description is rather unsatisfactory, as usual, but what there is of it will apply much better to *Cacalia sulcata* Fernald,* a recently described species allied to *C. tuberosa*. This, too, has a restricted range, being known as yet only from Southwest Georgia and West Florida, but the chances of its being found hereafter in the vicinity of Walter's home are doubtless greater than in the case of the two comparatively well-known plants just discussed.

From the foregoing it is pretty evident that the plant described by Elliott is now without a name, so I have provided one for it below.

A third member of the *lanccolata* group is common in moist pine-barrens in some of the "wire-grass" counties of Georgia (see TORREYA, 5: 114, second line from bottom). It differs from *M. lanccolata* in having shorter leaves, which are not at all glaucous but yellowish-green throughout, and being scarcely more than half as tall. Its range seems to be entirely distinct, for I have seen it only in the Altamaha Grit region, and *M. lanccolata* only in the flat country south and east of there. A plant described by Elliott from specimens sent from Louisville, Georgia, by James Jackson, and doubtfully referred to *Cacalia lanccolata*, was probably the same as mine from the Altamaha Grit region. Louisville is not in this region, but Mr. Jackson may have collected the *Mesadenia* some distance south of Louisville, as he is believed to have done in the analogous case of

* Bot. Gaz. 33: 157. 1902. See also Bull. Torrey Club 30: 342. 1903; 31: 27. 1904. *Mesadenia dentata* Raf. (New Fl. N. A. 4: 79. 1836), described from Alabama, is possibly synonymous with this.

Pentstemon dissectus Ell.* Elliott describes the leaves as "slightly glaucous underneath," but they appear more so in the dried state than when living. For the present it seems best to treat this bright-green plant as a variety rather than a species, since its chief character is scarcely distinguishable in herbarium specimens.

The nomenclature and known distribution of these three plants may be summarized as follows :

Mesadenia Elliottii

- ✓ "*Cacalia ovata* Walt."; Ell. Bot. S. C. & Ga. 2 : 310. 1822. T. & G. Fl. N. A. 2 : 435. 1843 ; Chapm. Fl. S. U. S. 244. 1860 ; Wood, Class-Book, 463. 1861 ; Gray. Syn. Fl. 1² : 395. 1884.
 "*Mesadenia ovata* (Walt.) Raf." Small, Fl. S. E. U. S. 1301. 1903.

Grows mostly in damp woods, ranging from Georgia and Florida to Louisiana in the coastal plain. Elliott said of it : "Grows in the western parts of Georgia.† Common in the highlands near the Alabama." Wood reported its having been collected in the vicinity of Macon, Ga., by Dr. Mettauer. Dr. Mohr reported it from Lee and Montgomery counties in the Cretaceous region of Alabama, which is probably just about where Elliott saw it. In Georgia I have seen it in the counties of Houston, Early and Berrien (*no. 1701*), and only in places where the Lafayette formation seems to be absent. I have examined the following specimens besides my own :

GEORGIA : Without further data, *Boykin*. "Clearing in edge of swamp near Smithville," Aug. 26, 1901, *A. H. Curtiss* (*no. 6884*).

FLORIDA : Middle Florida, *Chapman* (*no. 325*).

ALABAMA : Vicinity of Auburn, Lee Co., several collections by *Earle* and others, without indication of habitat.

MISSISSIPPI : Mendenhall, Simpson Co., Aug. 18, 1903 (without further data), *S. M. Tracy* (*no. 8671*).

* See Bull. Torrey Club 32 : 166, 167. 1905.

† Presumably near the fall-line, and probably not far from Columbus. See Bull. Torrey Club, 31 : 12. 1904.

LOUISIANA: Without further data, *Leavenworth*. "Damp valleys in pine woods, Feliciana. August," *Wm. Carpenter*.

MESADENIA LANCEOLATA (Nutt.) Greene,* *Pittonia* 3: 182. 1897. *Cacalia lanceolata* Nutt. *Gen.* 2: 138. 1818.

In Georgia I have seen this in flat damp pine-barrens in McIntosh (especially around Darien Junction), Glynn, and Brooks (no. 1631) counties. In Alabama Dr. Mohr reported it from Mobile and Baldwin counties, in various situations varying from moist pine-barrens to brackish marshes. (Dr. Chapman gave brackish marshes as its only habitat.) Specimens examined show it to range southward to the Everglades of Florida and westward to Louisiana.

✓ **Mesadenia lanceolata virescens** var. nov.

Stem 9–10 dm. tall; leaves yellowish-green on both surfaces, not glaucous, the lowest 16–18 cm. long. Otherwise much like *M. lanceolata*.

Apparently confined to the Altamaha Grit region of Georgia, where it grows in moist pine-barrens, with both Lafayette and Columbia formations present. Flowers in September and October. It is represented in my collections by no. 664, collected September 19, 1900,† and no. 1678, collected September 26, 1902, both from Tifton, Berrien county. I will designate no. 1678 as the type because I have distributed more specimens of it than of the earlier number, but the two collections are absolutely identical, their stations being only a few feet apart.

I have noted the same plant also in the counties of Dodge, Telfair, Appling, Coffee, Wilcox, Irwin, Dooly, Worth, Colquitt and Thomas; and I have little doubt that it grows also in Bulloch, Emanuel, Tattnall and Montgomery, which counties I have not yet visited at the proper season for identifying it. Jackson's plant mentioned by Elliott, if it is the same as mine, probably came from Emanuel County.

COLLEGE POINT, N. Y.

* The authorship of this combination is usually credited to Rafinesque, but he gave neither description nor synonyms.

† See *Bull. Torrey Club*, 28: 459 (first paragraph). 1900.